OIPE

RAW SEQUENCE LISTING   DATE: 02/28/2002
PATENT APPLICATION: US/10/051,902   TIME: 10:25:24

Input Set : N:\Crf3\RULE60\10051902.raw.txt
Output Set: N:\CRF3\02282002\J051902.raw

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        1  <110> APPLICANT: Allen, Steve
        2         Hitz, Bill
        3         Kinney, Tony
        4         Tingey, Scott
        5  <120> TITLE OF INVENTION: Plant Sugar Transport Proteins
        6  <130> FILE REFERENCE: BB-1163
        7  <140> CURRENT APPLICATION NUMBER: 10/051,902
C-->    8  <141> CURRENT FILING DATE: 2002-01-17
        9  <150> PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US/09/291,922
W-->   10  <151> PRIOR FILING DATE: EARLIER FILING DATE: 1999-04-14
       11  <160> NUMBER OF SEQ ID NOS: 30
       12  <170> SOFTWARE: Microsoft Office 97
       14  <210> SEQ ID NO: 1
       15  <211> LENGTH: 2824
       16  <212> TYPE: DNA
       17  <213> ORGANISM: Zea mays
       18  <220> FEATURE:
       19  <221> NAME/KEY: unsure
       20  <222> LOCATION: (29)
       21  <220> FEATURE:
       22  <221> NAME/KEY: unsure
       23  <222> LOCATION: (622)
       24  <220> FEATURE:
       25  <221> NAME/KEY: unsure
       26  <222> LOCATION: (636)
       27  <220> FEATURE:
       28  <221> NAME/KEY: unsure
       29  <222> LOCATION: (638)
       30  <220> FEATURE:
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       32  <222> LOCATION: (669)
       33  <220> FEATURE:
       34  <221> NAME/KEY: unsure
       35  <222> LOCATION: (771)
       36  <220> FEATURE:
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       38  <222> LOCATION: (822)
       39  <220> FEATURE:
       40  <221> NAME/KEY: unsure
       41  <222> LOCATION: (856)
       42  <220> FEATURE:
       43  <221> NAME/KEY: unsure
       44  <222> LOCATION: (889)
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RAW SEQUENCE LISTING   DATE: 02/28/2002
PATENT APPLICATION: **US/10/051,902**   TIME: 10:25:24

Input Set : **N:\Crf3\RULE60\10051902.raw.txt**
Output Set: **N:\CRF3\02282002\J051902.raw**

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 45 <220> FEATURE:
 46 <221> NAME/KEY: unsure
 47 <222> LOCATION: (896)
 48 <220> FEATURE:
 49 <221> NAME/KEY: unsure
 50 <222> LOCATION: (944)
 51 <400> SEQUENCE: 1
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 53      tccgcacccc tcgctctcca accccaacgc gcggcgttgc taaaattcac ctcagcgcgt  120
 54      actccagttt ggccacctca ccacccgccg ccgctgttta agaaggcccc gcgcccgatc  180
 55      ggggatcacg aaccttggcc gccgctgccg gagtgggggc gtagatttcc ggcggccatg  240
 56      gggggcgccg tgatggtcgc catcgcggcc tctatcggca acttgctgca gggctgggac  300
 57      aatgcgacaa ttgctggagc cgtcctgtac ataaagaagg aattcaacct gcagagcgag  360
 58      cctctgatcg aaggcctcat cgtcgccatg ttcctcattg gggcaacagt catcacaaca  420
 59      tctccggggc caagggctga ctgcgttggt aggaggccca tgctggtcgc ctcggctgtc  480
 60      ctctacttcg tcagtgggct ggtgatgctt tgggcgccaa ttgtgtacat cttgctcctc  540
 61      gcaaggctca ttgatgggtt cggtatcggt ttggcggtca cacttgttcc tctctacatc  600
W-->62      tccgaaactg caccgcacag anattcttgg ggctgntnga acacgttgcc gcagttcatt  660
W-->63      ggggtcagng gagggatgtt cctctcctac tgcatggtgt ttgggatgtc cctcatgccc  720
W-->64      aaacctgatt ggaggctcat gcttggagtt ctgtcgatcc cgtcacttat ntactttgga  780
W-->65      ctgactgtct tctacttgcc tgaatcacca aggtggcttg tnagcaaagg aaggatggcg  840
W-->66      gaggcgaaga gagtgntgca aaggctgcgg ggaagagaag atgtctcang ggaganggct  900
W-->67      cttctagttg aaggtttggg ggtcggtaaa gatacacgta tttnagagta catcattgga  960
 68      cctgccaccg aggcagccga tgatcttgta actgacggtg ataaggaaca aatcacactt 1020
 69      tatgggcctg aagaaggcca gtcatggatt gctcgacctt ctaagggacc catcatgctt 1080
 70      ggaagtgtgc tttctcttgc atctcgtcat gggagcatgg tgaaccagag tgtacccctt 1140
 71      atggatccga ttgtgacact ttttggtagt gtccatgaga atatgcctca agctggagga 1200
 72      agtatgagga gcacattgtt tccaaacttt ggaagtatgt tcagtgtcac agatcagcat 1260
 73      gccaaaaatg agcagtggga tgaagagaat cttcataggg atgacgagga gtacgcatct 1320
 74      gatggtgcag gaggtgacta tgaggacaat ctccatagcc cattgctgtc caggcaggca 1380
 75      acaggtgcgg aaggaagga cattgtgcac catggtcacc gtggaagtgc tttgagcatg 1440
 76      agaaggcaaa gcctcttagg ggagggtgga gatggtgtga gcagcactga tatcggtggg 1500
 77      ggatggcagc ttgcttggaa atggtcagag aaggaaggtg agaatggtag aaaggaaggt 1560
 78      ggtttcaaaa gagtctactt gcaccaagag ggagttcctg gctcaagaag gggctcaatt 1620
 79      gtttcacttc ccggtggtgg cgatgttctt gagggtagtg agtttgtaca tgctgctgct 1680
 80      ttagtaagtc agtcagcact tttctcaaag ggtcttgctg aaccacgcat gtcagatgct 1740
 81      gccatggttc acccatctga ggtagctgcc aaaggttcac gttggaaaga tttgtttgaa 1800
 82      cctggagtga ggcgtgccct gttagtcggt gttggaattc agatccttca acagtttgct 1860
 83      ggaataaacg gtgttctgta ctataccccca caaattcttg agcaagctgg tgtggcagtt 1920
 84      attctttcca aatttggtct cagctcggca tcagcatcca tcttgatcag ttctctcact 1980
 85      accttactaa tgcttccttg cattggcttt gccatgctgc ttatggatct ttccggaaga 2040
 86      aggttttgc tgctaggcac aattccaatc ttgatagcat ctctagttat cctggttgtg 2100
 87      tccaatctaa ttgatttggg tacactagcc catgctttgc tctccaccat cagtgttatc 2160
 88      gtctacttct gctgcttcgt tatgggattt ggtcccatcc ccaacatttt atgtgcagag 2220
 89      atctttccaa ccaggggttcg tggcctctgt attgccattt gtgcctttac attctggatc 2280
 90      ggagatatca tcgtcaccta cagccttcct gtgatgctga atgctattgg actggcgggt 2340
 91      gttttcagca tatatgcagt cgtatgcttg atttcctttg tgttcgtctt ccttaaggtc 2400
 92      cctgagacaa aggggatgcc ccttgaggtt attaccgaat tctttgcagt tggtgcgaag 2460
 93      caagcggctg caaaagccta atttctttgg tacctttgtg tgcaactatt gcactgtaag 2520
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RAW SEQUENCE LISTING   DATE: 02/28/2002
PATENT APPLICATION: US/10/051,902   TIME: 10:25:24

Input Set : **N:\Crf3\RULE60\10051902.raw.txt**
Output Set: **N:\CRF3\02282002\J051902.raw**

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94        ttagaaactt gaaggggttt caccaagaag ctcggagaat tactttggat ttgtgtaaat 2580
95        gttaagggaa cgaacatctg ctcatgctcc tcaaacggta aaaagagtc cctcaatggc 2640
96        aaataggagt cgttaagttg tcaatgtcat ttaccatatg ttttacctat ttgtactgta 2700
97        ttataagtca agctattcaa cgctggttgt tgctagaaat ctttagaaca aagatgataa 2760
98        tgatctgatc tgatgttata atattcaaat ctcaaataaa gaaaatatcg tttctcaaaa 2820
99        aaaa                                                               2824
101 <210> SEQ ID NO: 2
102 <211> LENGTH: 747
103 <212> TYPE: PRT
104 <213> ORGANISM: Zea mays
105 <220> FEATURE:
106 <221> NAME/KEY: UNSURE
107 <222> LOCATION: (129)
108 <220> FEATURE:
109 <221> NAME/KEY: UNSURE
110 <222> LOCATION: (133)..(134)
111 <220> FEATURE:
112 <221> NAME/KEY: UNSURE
113 <222> LOCATION: (144)
114 <220> FEATURE:
115 <221> NAME/KEY: UNSURE
116 <222> LOCATION: (178)
117 <220> FEATURE:
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119 <222> LOCATION: (207)
120 <220> FEATURE:
121 <221> NAME/KEY: UNSURE
122 <222> LOCATION: (218)
123 <220> FEATURE:
124 <221> NAME/KEY: UNSURE
125 <222> LOCATION: (220)
126 <220> FEATURE:
127 <221> NAME/KEY: UNSURE
128 <222> LOCATION: (236)
129 <400> SEQUENCE: 2
130     Met Gly Gly Ala Val Met Val Ala Ile Ala Ala Ser Ile Gly Asn Leu
131      1               5                  10                  15
132     Leu Gln Gly Trp Asp Asn Ala Thr Ile Ala Gly Ala Val Leu Tyr Ile
133                  20                  25                  30
134     Lys Lys Glu Phe Asn Leu Gln Ser Glu Pro Leu Ile Glu Gly Leu Ile
135              35                  40                  45
136     Val Ala Met Phe Leu Ile Gly Ala Thr Val Ile Thr Thr Ser Pro Gly
137          50                  55                  60
138     Pro Arg Ala Asp Cys Val Gly Arg Arg Pro Met Leu Val Ala Ser Ala
139      65                  70                  75                  80
140     Val Leu Tyr Phe Val Ser Gly Leu Val Met Leu Trp Ala Pro Ile Val
141                      85                  90                  95
142     Tyr Ile Leu Leu Leu Ala Arg Leu Ile Asp Gly Phe Gly Ile Gly Leu
143                  100                 105                 110
```

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PATENT APPLICATION: US/10/051,902   TIME: 10:25:24

Input Set : N:\Crf3\RULE60\10051902.raw.txt
Output Set: N:\CRF3\02282002\J051902.raw

```
       144    Ala Val Thr Leu Val Pro Leu Tyr Ile Ser Glu Thr Ala Pro His Arg
       145        115                 120                 125
W-->   146    Xaa Ser Trp Gly Xaa Xaa Asn Thr Leu Pro Gln Phe Ile Gly Val Xaa
       147        130                 135                 140
       148    Gly Gly Met Phe Leu Ser Tyr Cys Met Val Phe Gly Met Ser Leu Met
       149    145                 150                 155                 160
       150    Pro Lys Pro Asp Trp Arg Leu Met Leu Gly Val Leu Ser Ile Pro Ser
       151                        165                 170                 175
W-->   152    Leu Xaa Tyr Phe Gly Leu Thr Val Phe Tyr Leu Pro Glu Ser Pro Arg
       153        180                 185                 190
W-->   154    Trp Leu Val Ser Lys Gly Arg Met Ala Glu Ala Lys Arg Val Xaa Gln
       155        195                 200                 205
W-->   156    Arg Leu Arg Gly Arg Glu Asp Val Ser Xaa Glu Xaa Ala Leu Leu Val
       157        210                 215                 220
W-->   158    Glu Gly Leu Gly Val Gly Lys Asp Thr Arg Ile Xaa Glu Tyr Ile Ile
       159    225                 230                 235                 240
       160    Gly Pro Ala Thr Glu Ala Ala Asp Asp Leu Val Thr Asp Gly Asp Lys
       161                        245                 250                 255
       162    Glu Gln Ile Thr Leu Tyr Gly Pro Glu Glu Gly Gln Ser Trp Ile Ala
       163        260                 265                 270
       164    Arg Pro Ser Lys Gly Pro Ile Met Leu Gly Ser Val Leu Ser Leu Ala
       165        275                 280                 285
       166    Ser Arg His Gly Ser Met Val Asn Gln Ser Val Pro Leu Met Asp Pro
       167        290                 295                 300
       168    Ile Val Thr Leu Phe Gly Ser Val His Glu Asn Met Pro Gln Ala Gly
       169    305                 310                 315                 320
       170    Gly Ser Met Arg Ser Thr Leu Phe Pro Asn Phe Gly Ser Met Phe Ser
       171                        325                 330                 335
       172    Val Thr Asp Gln His Ala Lys Asn Glu Gln Trp Asp Glu Glu Asn Leu
       173        340                 345                 350
       174    His Arg Asp Asp Glu Glu Tyr Ala Ser Asp Gly Ala Gly Gly Asp Tyr
       175        355                 360                 365
       176    Glu Asp Asn Leu His Ser Pro Leu Leu Ser Arg Gln Ala Thr Gly Ala
       177        370                 375                 380
       178    Glu Gly Lys Asp Ile Val His His Gly His Arg Gly Ser Ala Leu Ser
       179    385                 390                 395                 400
       180    Met Arg Arg Gln Ser Leu Leu Gly Glu Gly Gly Asp Gly Val Ser Ser
       181                        405                 410                 415
       182    Thr Asp Ile Gly Gly Gly Trp Gln Leu Ala Trp Lys Trp Ser Glu Lys
       183                        420                 425                 430
       184    Glu Gly Glu Asn Gly Arg Lys Glu Gly Gly Phe Lys Arg Val Tyr Leu
       185        435                 440                 445
       186    His Gln Glu Gly Val Pro Gly Ser Arg Arg Gly Ser Ile Val Ser Leu
       187        450                 455                 460
       188    Pro Gly Gly Gly Asp Val Leu Glu Gly Ser Glu Phe Val His Ala Ala
       189    465                 470                 475                 480
       190    Ala Leu Val Ser Gln Ser Ala Leu Phe Ser Lys Gly Leu Ala Glu Pro
       191                        485                 490                 495
       192    Arg Met Ser Asp Ala Ala Met Val His Pro Ser Glu Val Ala Ala Lys
```

RAW SEQUENCE LISTING DATE: 02/28/2002
PATENT APPLICATION: US/10/051,902 TIME: 10:25:24

Input Set : N:\Crf3\RULE60\10051902.raw.txt
Output Set: N:\CRF3\02282002\J051902.raw

```
193                    500                505                510
194        Gly Ser Arg Trp Lys Asp Leu Phe Glu Pro Gly Val Arg Arg Ala Leu
195            515                520                525
196        Leu Val Gly Val Gly Ile Gln Ile Leu Gln Gln Phe Ala Gly Ile Asn
197            530                535                540
198        Gly Val Leu Tyr Tyr Thr Pro Gln Ile Leu Glu Gln Ala Gly Val Ala
199        545                550                555                560
200        Val Ile Leu Ser Lys Phe Gly Leu Ser Ser Ala Ser Ala Ser Ile Leu
201                565                570                575
202        Ile Ser Ser Leu Thr Thr Leu Leu Met Leu Pro Cys Ile Gly Phe Ala
203            580                585                590
204        Met Leu Leu Met Asp Leu Ser Gly Arg Arg Phe Leu Leu Leu Gly Thr
205            595                600                605
206        Ile Pro Ile Leu Ile Ala Ser Leu Val Ile Leu Val Val Ser Asn Leu
207            610                615                620
208        Ile Asp Leu Gly Thr Leu Ala His Ala Leu Leu Ser Thr Ile Ser Val
209        625                630                635                640
210        Ile Val Tyr Phe Cys Cys Phe Val Met Gly Phe Gly Pro Ile Pro Asn
211                645                650                655
212        Ile Leu Cys Ala Glu Ile Phe Pro Thr Arg Val Arg Gly Leu Cys Ile
213            660                665                670
214        Ala Ile Cys Ala Phe Thr Phe Trp Ile Gly Asp Ile Ile Val Thr Tyr
215            675                680                685
216        Ser Leu Pro Val Met Leu Asn Ala Ile Gly Leu Ala Gly Val Phe Ser
217            690                695                700
218        Ile Tyr Ala Val Val Cys Leu Ile Ser Phe Val Phe Val Phe Leu Lys
219        705                710                715                720
220        Val Pro Glu Thr Lys Gly Met Pro Leu Glu Val Ile Thr Glu Phe Phe
221                725                730                735
222        Ala Val Gly Ala Lys Gln Ala Ala Ala Lys Ala
223            740                745
225 <210> SEQ ID NO: 3
226 <211> LENGTH: 443
227 <212> TYPE: DNA
228 <213> ORGANISM: Oryza sativa
229 <220> FEATURE:
230 <221> NAME/KEY: unsure
231 <222> LOCATION: (193)
232 <220> FEATURE:
233 <221> NAME/KEY: unsure
234 <222> LOCATION: (388)
235 <220> FEATURE:
236 <221> NAME/KEY: unsure
237 <222> LOCATION: (435)
238 <220> FEATURE:
239 <221> NAME/KEY: unsure
240 <222> LOCATION: (439)
241 <400> SEQUENCE: 3
242        gaagagctca cccccccccc ctcggccctg gactccctcc tccaaatctc ccctaaaagc   60
```

VERIFICATION SUMMARY
PATENT APPLICATION: US/10/051,902

DATE: 02/28/2002
TIME: 10:25:25

Input Set : **N:\Crf3\RULE60\10051902.raw.txt**
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```
L:8 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:10 M:256 W: Invalid Numeric Header Field. Wrong Prior FILING DATE:YYYY-MM-DD
L:52 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:52 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:62 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:62 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:63 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:63 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:64 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:64 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:65 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:65 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:66 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:66 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:67 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:1
L:67 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:146 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:2
L:146 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:152 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:2
L:152 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:154 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:2
L:154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:156 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:2
L:156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:158 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:2
L:158 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:245 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:248 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:248 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:249 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:249 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:270 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:4
L:270 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:278 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:4
L:278 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:611 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:11
L:611 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:612 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:11
L:612 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:807 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:17
L:807 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:809 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:17
L:809 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:810 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:17
L:810 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:812 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:17
L:812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
```

VERIFICATION SUMMARY   DATE: 02/28/2002
PATENT APPLICATION: **US/10/051,902**   TIME: 10:25:25

Input Set : **N:\Crf3\RULE60\10051902.raw.txt**
Output Set: **N:\CRF3\02282002\J051902.raw**

```
L.814 M 258 W: Mandatory Feature missing, <223> not found for SEQ ID#:17
L:814 M 341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L.815 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:17
L.815 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L.841 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:18
L.841 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L.847 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:18
L.847 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L.849 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:18
L.849 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L.855 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:18
L.855 M 341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L.1029 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:22
L.1029 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
```